

NJS

STUDY

1983

BRIEFING DOCUMENT

GIVAUDAN CHEMICAL COMPANY

CLIFTON, NEW JERSEY

10/3/83

-Copy L. Levy 5/5/84

cc. H. Hart + 1/1/84


EXECUTIVE SUMMARY

Four (4) phases of TCDD sampling were conducted at Givaudan Chemical Company, Clifton, New Jersey. FIT conducted Phases I and II, off-site sampling. Phases III and IV, on-site sampling, were conducted by NJDEP. These four (4) phases are described in detail below.

<u>Phase #</u>	<u>TDD #</u>	<u>Sampling Date</u>	<u>Total Samples</u>
I	02-8306-34	6/18/83	16(a)
II	02-8306-34D	9/8/83	16(a)
III	Not Applicable	6/18/83	23
IV	Not Applicable	6/25/83	19
TOTAL			74

FIT evaluated the analytical data from Phases I through IV for TCDD from soil, sweep and vacuum bags from the vicinity of the Givaudan Facility.

The major findings of there evaluations were:

1. No TCDD was detected in off-site samples.
2. No TCDD was detected in eighteen (18) on-site samples.
-  3. TCDD was detected in nineteen (19) on-site samples. TCDD levels ranged from .09 to 9.7.

NOTE:

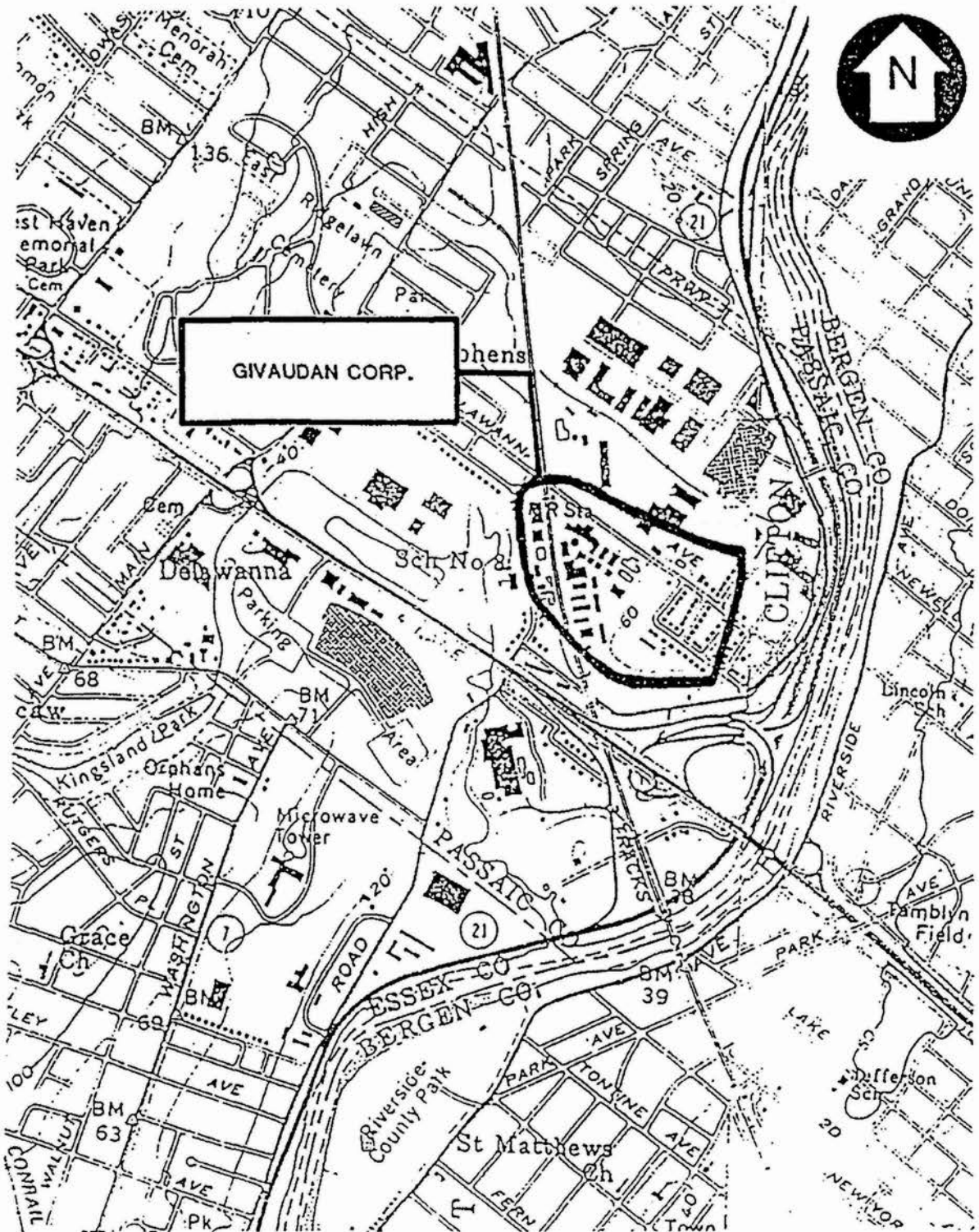
(a) The total number of samples includes QA/QC.

INTRODUCTION

The purpose of this study is to determine the presence or non-presence of 2,3,7,8-TCDD in and around the Givaudan Chemical Company, Clifton, New Jersey.

2,4,5-Trichlorophenol (TCP) has been used at this facility as a raw material in the manufacture of hexachlorophene since the early 1940's. It is shipped to Givaudan as a solid in sealed drums and stored for future use in a central storage area. In May 1983, 80,000 lbs. of TCP were being stored on site. An average of 331,000 lbs./yr. have been used from 1978 to 1982.

Figure 1 provides a site location map. Figure 2 provides a Phase I sample location map. Figure 3 provides a Phase II sample location map. Figure 4 provides a Phase III sample location map. Figure 5 provides a Phase IV sample location map.



GIVAUDAN CORP.
CLIFTON, N.J.
SITE LOCATION MAP

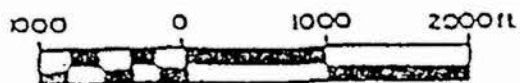
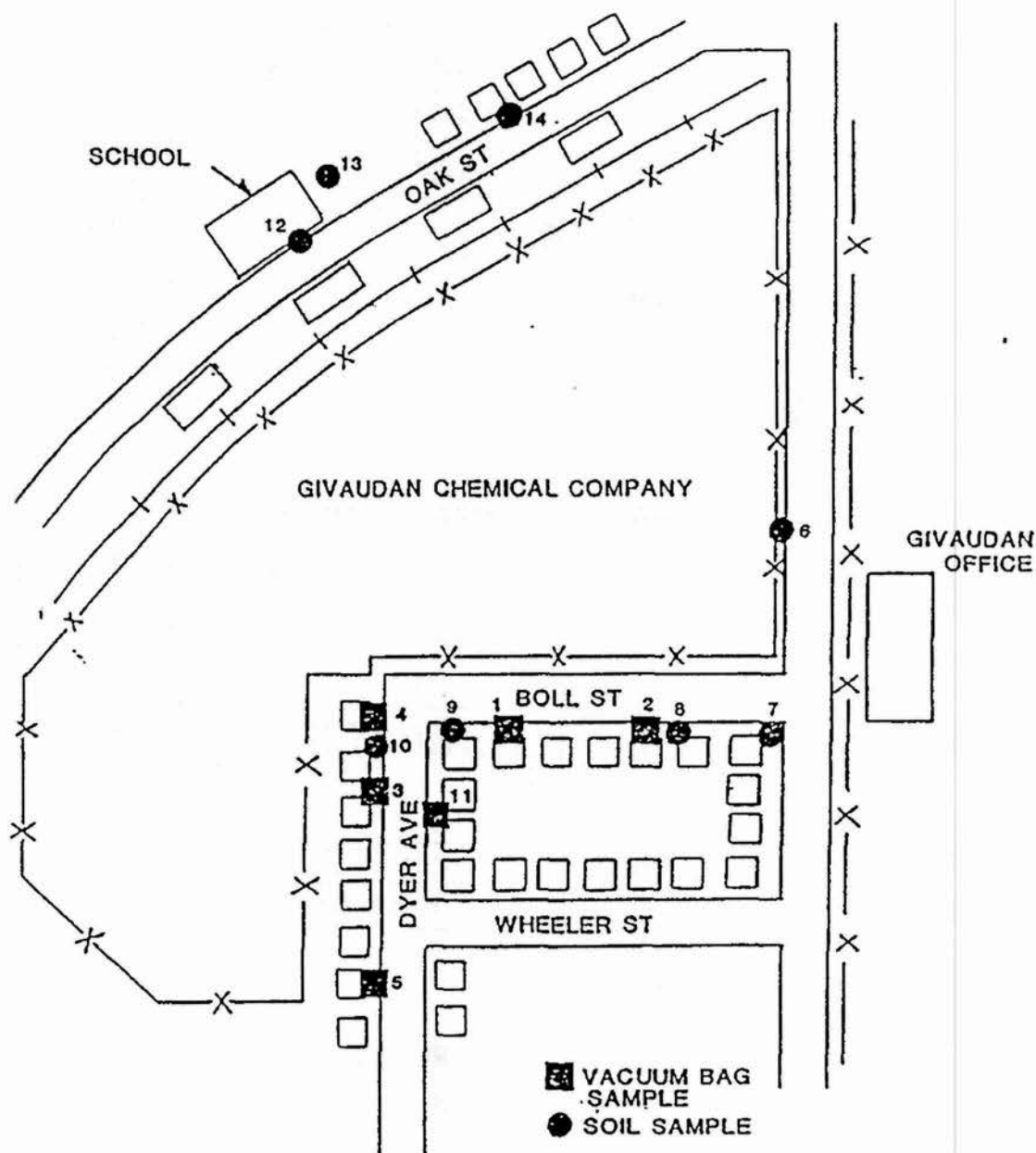


FIGURE 1

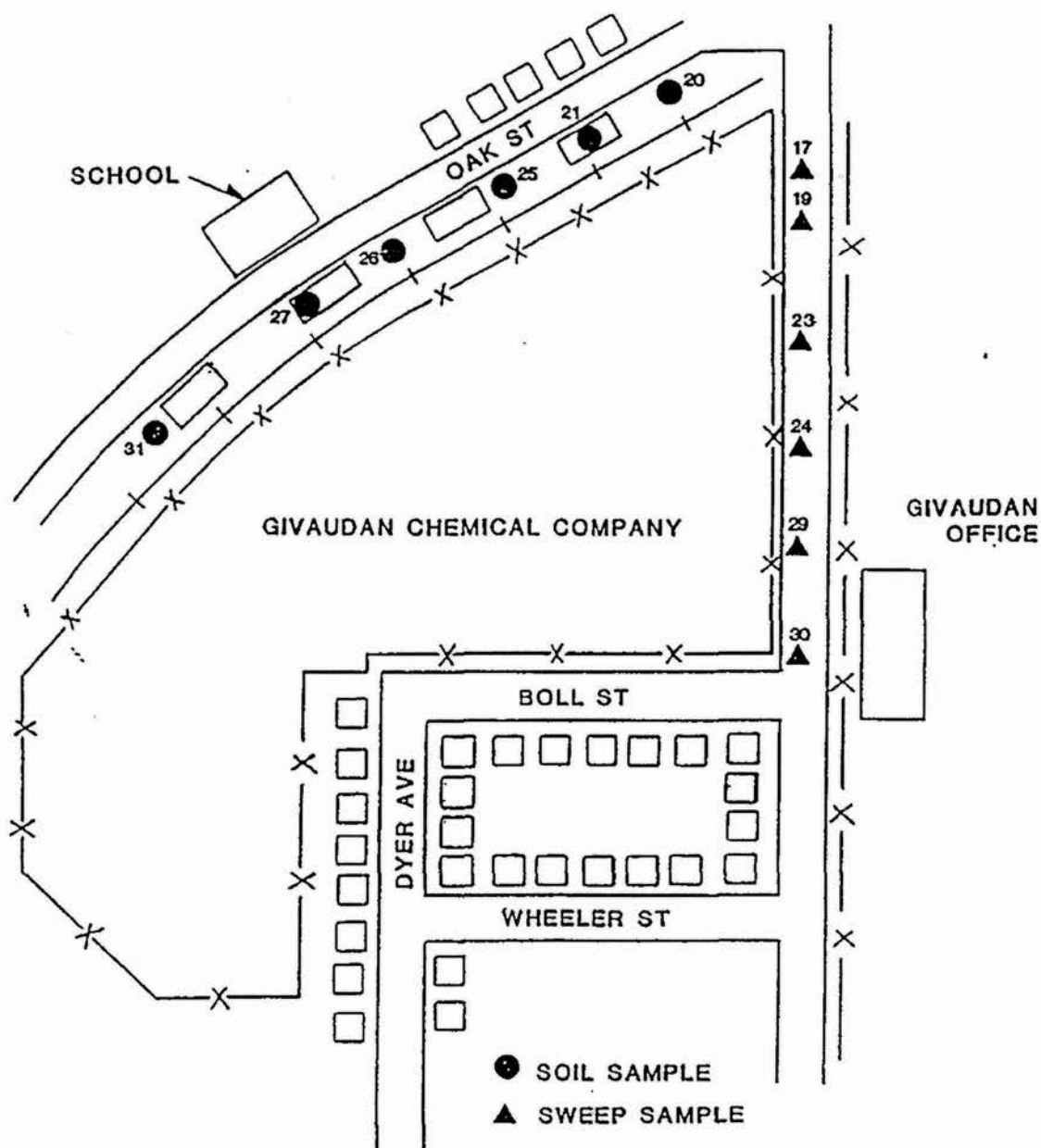




GIVAUDAN CORP
CLIFTON, N.J.
PHASE I

FIGURE 2

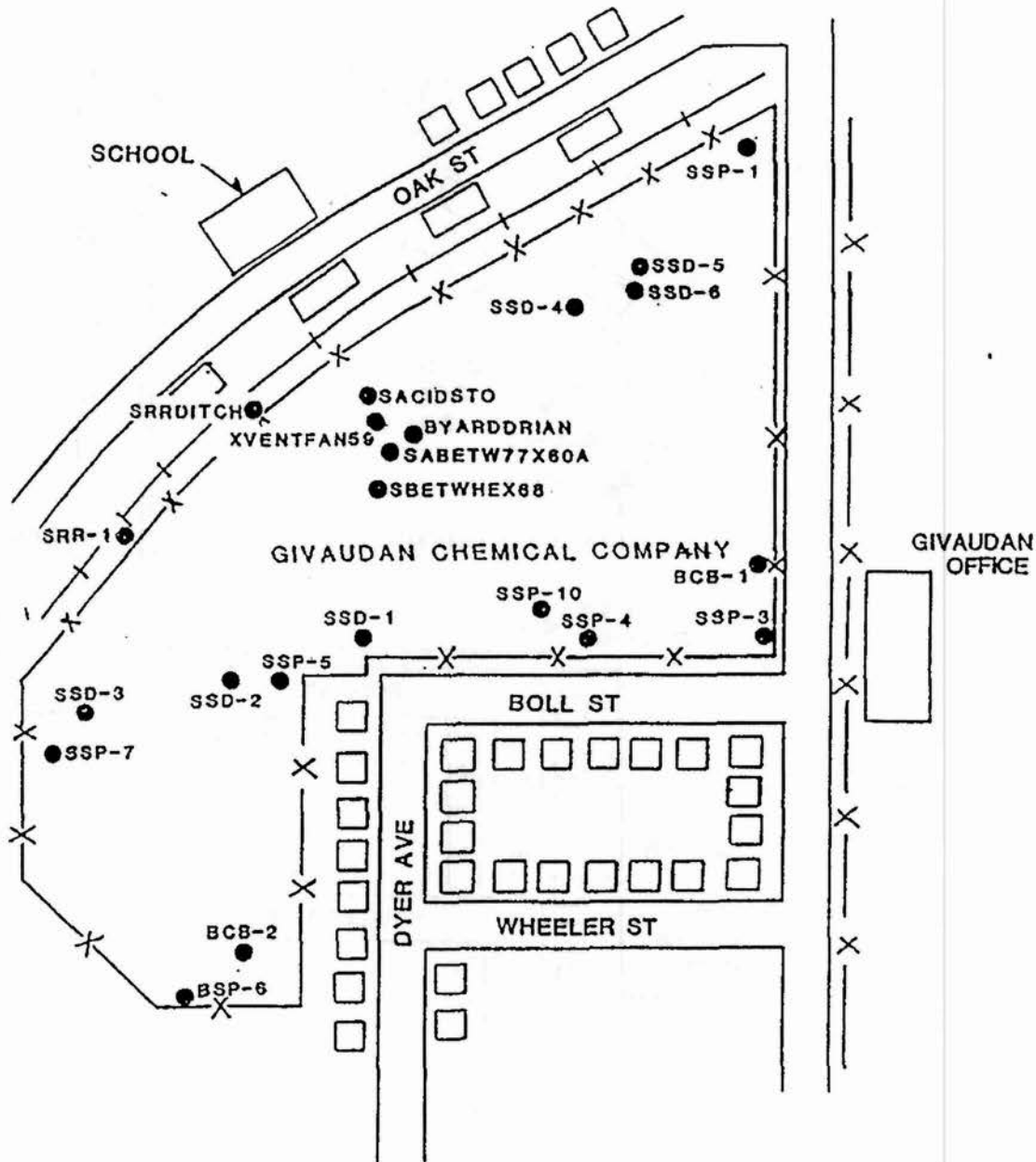




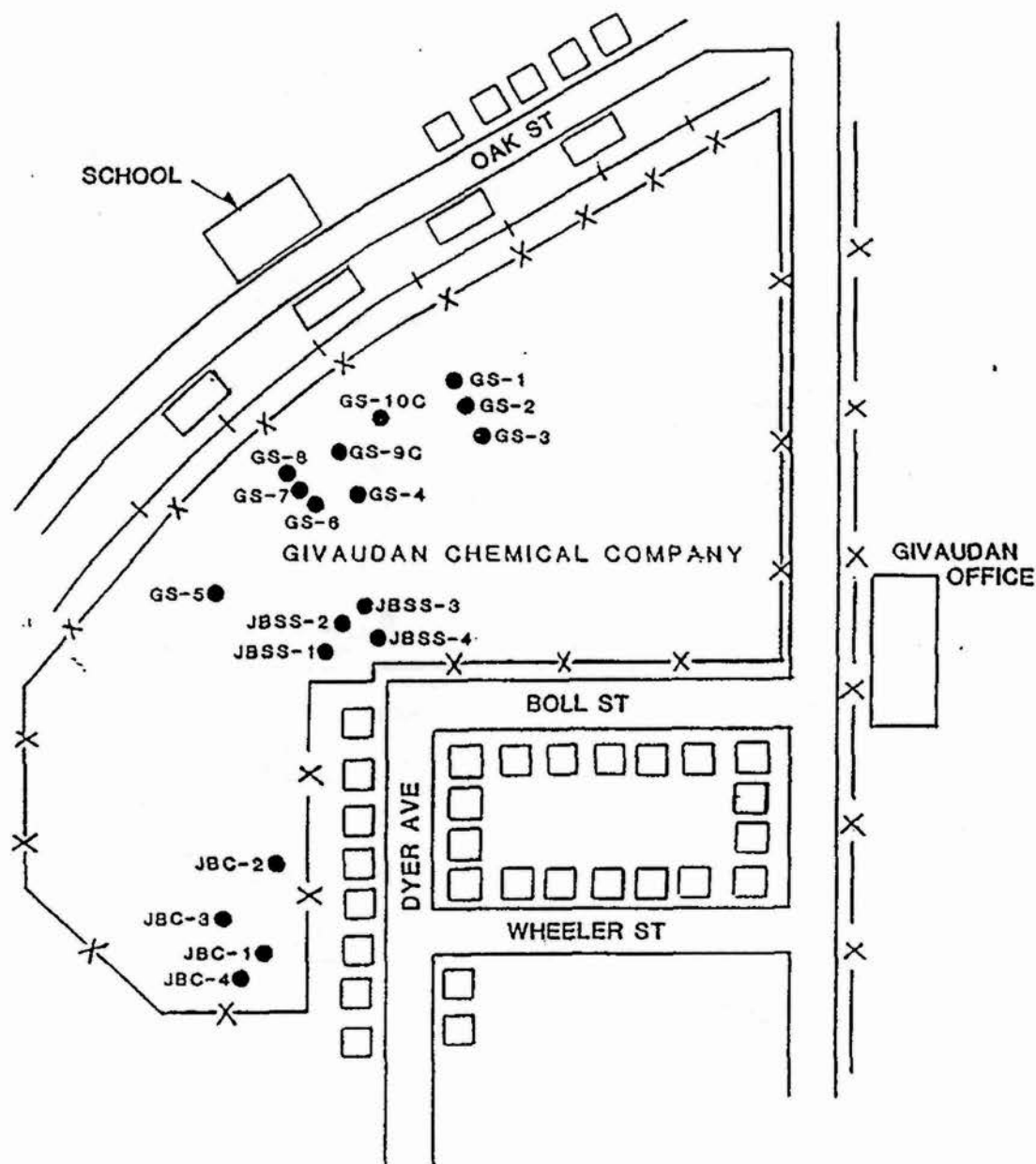
GIVAUDAN CORP
CLIFTON, N.J.
PHASE II
SAMPLE LOCATION MAP

FIGURE 3





GIVAUDAN CORP
CLIFTON, N.J.
PHASE III
SAMPLE LOCATION MAP
(NOT TO SCALE)



GIVAUDAN CORP
CLIFTON, N.J.
PHASE IV
SAMPLE LOCATION MAP
(NOT TO SCALE)

METHODOLOGY

Four (4) phases of TCDD sampling were conducted at the Givaudan facility. FIT conducted Phase I and II, off-site sampling. Phases III and IV, on-site sampling, were conducted by NJDEP.

<u>Phase #</u>	<u>TDD #</u>	<u>Sampling Date</u>	<u>Total Samples</u>
I	02-8306-34	6/18/83	16(a)
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III	Not Applicable	6/18/83	23
IV	Not Applicable	6/25/83	19
TOTAL			74

NOTE:

(a) The total number of samples includes QA/QC.

FINDINGS

The findings from off-site sampling Phases I and II are provided in Table 1.

The findings from on-site sampling Phases III and IV are given in Table 2.

The major findings of these evaluations were:

1. No TCDD was detected in off-site samples.
2. No TCDD was detected in eighteen (18) on-site samples.
3. TCDD was detected in nineteen (19) on-site samples. The locations of the positive findings are shown in Figure 6.

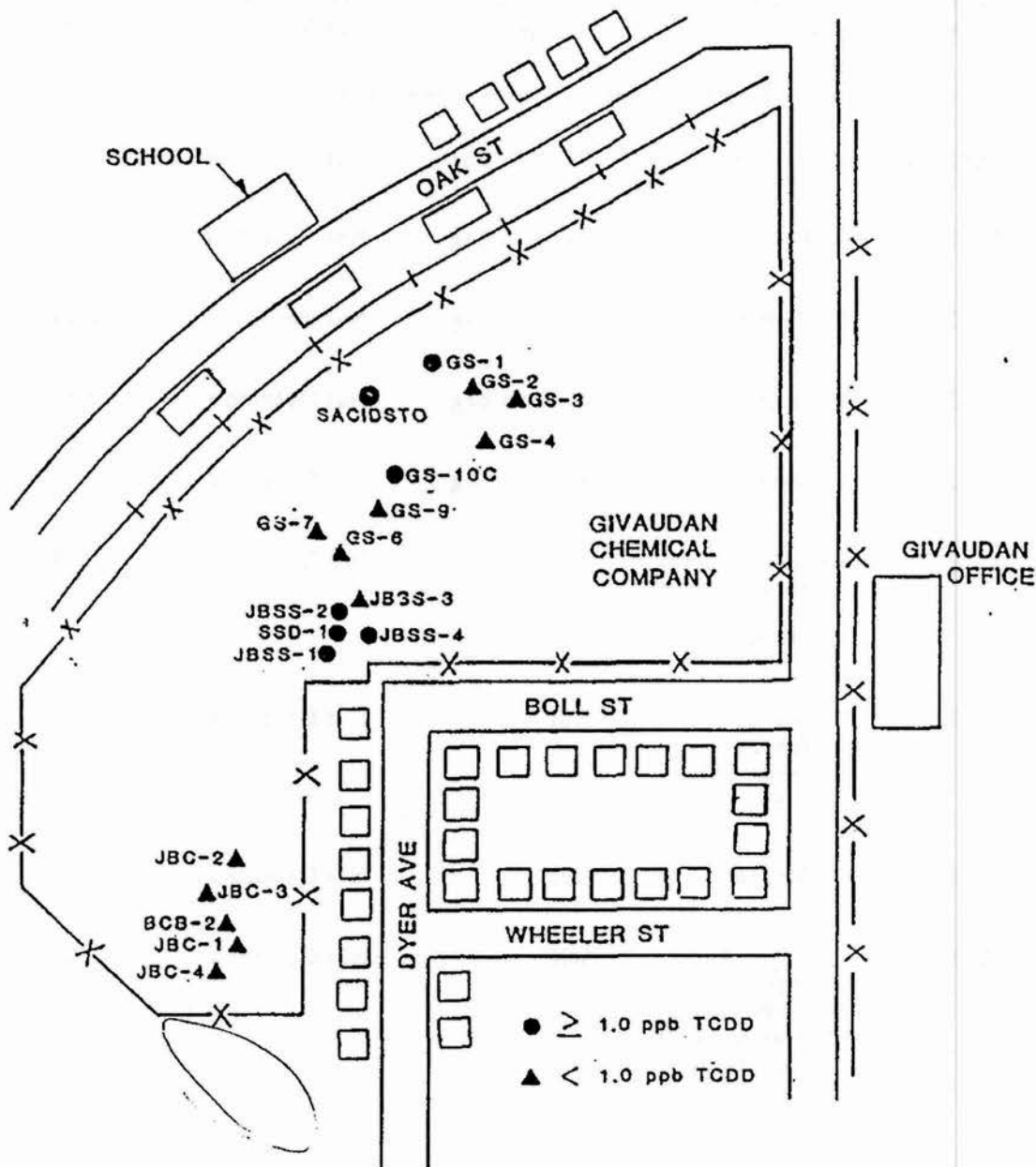
Appendix A provides the complete analytical data package for Phase I.

Appendix B provides the complete analytical data package for Phase II.

Appendix C provides the complete analytical data package for Phase IV, and part of Phase III.

Appendix D: provides the complete analytical data package for the rest of Phase III.

Since FIT did not collect samples for Phases III or IV, it cannot guarantee the quality of the data presented for these phases.



GIVAUDAN CORP
CLIFTON, N.J.
POSITIVE TCDD SAMPLE
LOCATION MAP
(NOT TO SCALE)

TABLE I
PHASES I AND II FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
SAS633-B-1	75 Boll St.	Vacuum Bag	Not Detected	0.06
SAS633-B-2	89 Boll St.	Vacuum Bag	Not Detected	0.14
SAS633-B-3	95 Dyer Ave.	Vacuum Bag	Not Detected	0.04
SAS633-B-4	99 Dyer Ave.	Vacuum Bag	Not Detected	0.10
SAS633-B-5	69 Dyer Ave.	Vacuum Bag	Not Detected	0.04
SAS633-B-6	Delawanna Ave. 5' from Crime Watch Sign 2.5' from st.	Soil	Not Detected	0.03
SAS633-B-7	97 Boll St. 2' from st. 2nd seam from driveway	Soil	Not Detected	0.02
SAS633-B-8	89 Boll St.	Soil	Not Detected	0.01
SAS633-B-9	100 Dyer Ave. 5 fence poles from the corner of Dyer and Boll on Boll Street	Soil	Not Detected	0.02

TABLE I (cont'd)
PHASES I AND II FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
SAS633-B-10	99 Dyer Ave. 4' from edge of lawn, middle of bay window	Soil	Not Detected	0.03
SAS633-B-11	96 Dyer Ave.	Vacuum Bag	Not Detected	0.04
SAS633-B-12	Public School #8 49 Oak Street front lawn - 5' from edge of lawn, in line with flag pole	Soil	Not Detected Not Detected (dup)	0.07 0.02
SAS633-B-13	Public School #8 49 Oak Street Northwest site of school, 30' from manhole in lawn	Soil	Not Detected	0.02
SAS633-B-14	77 Oak Street	Vacuum Bag	Not Detected	0.35
SAS633-B-15	EPA - Raritan Arsenal	Sample Blank	Not Detected	0.06
SAS633-B-16	EPA - Raritan Arsenal	Matrix Spike	0.97	Not Applicable

TABLE 1 (cont'd)
PHASES I AND II FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
SAS 753B-17	Location #7 - corner of Delawanna Ave. Park-Ride parking lot	Sweep	Not Detected	0.25
SAS 753B-18	Unknown Blank	Soil	Not Detected	0.02
SAS 753B-19	Location #8 - southern curb directly south of Givaudan Parking Area C	Sweep	Not Detected	0.28
SAS 753B-20	Location #1 - along east fence-line of Consolidated Lumber parking lot	Sweep	Not Detected	0.02
SAS 753B-21	Location #2 - grass strip between Oak St. and sidewalk in front of Consolidated Lumber Co. offices	Sweep	Not Detected Not Detected (dup)	0.03 0.05
SAS 753B-22	80 Lister Avenue, Newark, N.J.	QA Reference Material - A	7.3	Not Applicable
SAS 753B-23	Location #9 - southern side of Delawanna Ave., area surrounding storm sewer east of plant entrance	SweepSoil	Not Detected	0.54

TABLE 1 (cont'd)
PHASES I AND II FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
SAS 753B-24	Location #10 - due south of Delawanna Ave.- Colorado St. road sign along southern curb	Sweep	Not Detected	0.15
SAS 753B-25	Location #3 - vacant property 25 feet north of demolished building	Soil	Not Detected	0.01
SAS 753B-26	Location #4 - 30 feet north of northeast corner of Pope Company building	Soil	Not Detected	0.03
SAS 753B-27	Location #5 - One foot west of cement retaining wall of Birch Lumber Company	Soil	Not Detected	0.02
SAS 753B-28	Sample Blank - Matrix	Soil	1.13	Not Applicable
SAS 753B-29	Location #11 - southern curb of Delawanna Avenue. 80 to 100 feet east of Givaudan employee parking entrance	Sweep	Not Detected	0.10

TABLE 1 (cont'd)
PHASES I AND II FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
SAS 753B-30	Location #12 - along southern apron of Delawanna Avenue-Boil St. intersection	Sweep	Not Detected	0.03
SAS 753B-31	Location #6 - Three feet west of cornerpost in back lot of Birch Lumber Company.	Soil	Not Detected	0.02
SAS 753B-32	80 Lister Avenue, Newark, N.J.	QA Reference Material - A	8.5	Not Applicable

TABLE 2
PHASES III AND IV FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
SBETWHEX68	North of Building 68A	Soil Composite	Did Not Pass QA/QC	
SBETW77X60A	North Side of Building 60	Soil Composite	Did Not Pass QA/QC	
SACIDSTO	North of Tank 47	Soil Composite	1.7	Not Applicable
SRRDITCH	Railroad Ditch West End of Site	Soil	Not Detected Composite	0.44
XVENTFAN59	North Side of Building 59	Soil	Not Detected	NG
BYARDDRAIN	South of Building 56	Sweep Composite	Not Detected	NG
BSP-6	North of River Rd. South End of Site	Soil	Not Detected Not Detected (duplicate)	1.0 0.67
BCB-1	Delawanna Ave., Southeast Side of Site	Soil	Did Not Pass QA/QC	
SSP-3	Corner of Delawanna Ave. and Boll St.	Soil	Not Detected	0.35

TABLE 2 (cont'd)
PHASES III AND IV FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
SSP-4	North of Boll St.	Soil	Not Detected	0.13
SSP-10	South of Building 50	Soil	Not Detected	0.11
SSD-1	North of Boll St. Entrance Gate	Soil	4.3	Not Applicable
SSP-5	West of Boll St. Entrance Gate	Soil	Did Not Pass QA/QC	
SSD-2	Northwest Corner of Building 90	Soil	Not Detected	0.15
BCB-2	West of Building 99, South End of Site	Soil	0.86	Not Applicable
SSD-3	East of River Rd. South End of Site	Soil	Not Detected	0.47
SSP-7	East of River Rd. South End of Site	Soil	Not Detected	0.15
SRR-1	Along Railroad Tracks, Southwest Edge of Site	Soil	Not Detected	0.17

TABLE 2 (cont'd)
PHASES III AND IV FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
SCX-1	Not Available	Soil	Not Detected	0.13
SSP-1	Delawanna Ave., North End of Site	Soil	Not Detected	0.23
SSD-5	North of Building 27	Soil	Not Detected	0.25
SSD-6	North of Building 27	Soil	Not Detected	0.11
SSD-4	Northwest of Building 27	Soil	Not Detected	0.08
GS-1	North Side of Building 53	Soil	4.2	Not Applicable
GS-2	North Side of Building 55	Soil	0.21	Not Applicable
GS-3	North of Building 51	Soil	0.55	Not Applicable
GS-4	Northwest of Building 71	Soil	0.55	Not Applicable
GS-5	Southwest of Building 78	Sweep	Not Detected	0.09

TABLE 2 (cont'd)
PHASES III AND IV FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
GS-6	South of Building 68A	Soil	0.12	Not Applicable
GS-7	South of Building 68A	Soil	0.40	Not Applicable
GS-8	South of Building 68	Soil	Not Detected	0.68
GS-9C	South of Building 62	Soil Composite	0.75	Not Applicable
GS-10C	South of Building 62	Soil Composite	1.7	Not Applicable
JBC-3	West of Building 99, South End of Site	Soil Auger	0.09	Not Applicable
JBC-1	West of Building 99, South End of Site	Soil Auger	0.10	Not Applicable
JBC-2	Southwest of Building 96, South End of Site	Soil Auger	0.35	Not Applicable
JBC-4	Southwest of of Building 99 South End of Site	Soil Auger	0.18	Not Applicable

TABLE 2 (cont'd)
PHASES III AND IV FINDINGS

Sample Number	Sample Location	Sample Type	TCDD Concentration (ppb)	Detection Limit
JBSS-1	Northwest of Boll St. Entrance Gate	Soil	1.1	Not Applicable
JBSS-2	North of Boll St. Entrance Gate	Soil	9.7	Not Applicable
JBSS-3	South of Drainage South End of Site	Soil	0.15	Not Applicable
JBSS-4	North of Boll St. Entrance Gate	Soil	3.1	Not Applicable
JBSS-5	Not Available	Soil	Did Not Pass QA/QC	

CONCLUSIONS

1. No TCDD was detected in off-site samples.
2. No TCDD was detected in eighteen (18) on-site samples.
3. TCDD was detected in nineteen (19) on-site samples. These positive findings ranged from 0.09 to 9.7.